

Welcome to Bob Cooper's Strange world!



Life can be strange, for a fortunate few a *lifetime* can be even stranger. I am one of those who has enjoyed to the fullest a strange life. I have been a very fortunate chap.

SatFACTS Volume 1/issue 1 to Volume 10 /issue 120 carves a neat ten years out of that strange life. In fact, SatFACTS (begun September 1994) has been almost an *after* life; something happening when most of the really good stuff is history and by many long forgotten. SatFACTS is merely the last of a hopelessly long string of journalistic endeavours that thread through a fascination with television reception that began in 1950; age 12. Moving from single digit (such as age 9) to double, and then into approaching adulthood, can be a traumatic period. Anyone who has their own 'teenager' or knows those who do will cringe at the simplicity of that description. It is my strongly held opinion that those of us who became teenagers in the early 50s were the last of the '*innocent generations*' - we were raised and nurtured into a world *without* television, rock music, nuclear threats, and up-front racial strife. The dawn of television (1948-1960 in the USA, 1955 in Australia, 1960 in New Zealand) did much more than invade our living room and parlour with comedy and drama; television painted on the screen 25 or 30 times each second an entirely new image of people dying in Korea (followed by Vietnam and spreading over time to most of the balance of the planet), rioting in India and Pakistan, earthquakes in Central America, disease and famine in Africa, nuclear stand-offs over Cuba and the end of Europe as a body of individual countries. Through these 'shared experiences', painted on millions and then billions of TV screens, the '*age of innocence*' marking the first 50 years of the 20th century dissolved, like a fading test pattern, into an age of confrontation.

Eighty percent of the planet's inhabitants alive today were born after John F. Kennedy was assassinated and Neil Armstrong set foot on the moon. Sixty-five percent were born after satellite TV delivery systems became practical, 50 percent after VHS (and Beta) video tape machines became plentiful.

My 'strange life' has been well timed by fate and my parents to coincide with all of this and much more. I was there when television began and fortunate that my father was curious enough to devote some of his ample engineering skills to bringing into our home very early television as I turned 12. As fate might have it, the nearest television station to our home was a hefty 100 miles/161km distant which put us into a region the American TV industry then classified as, 'deep fringe'; translation of which meant a few days a week for a few hours at a time, subject to the overwash of weather fronts, we could actually agree that the image appearing on our screen behind a snowstorm of noise was a man, or alternately, a bar of soap!

A 12 year old reaching out for adulthood is easily impressed and after devouring every printed article I could locate on 'deep fringe' TV reception, I came to the reasoned conclusion that we had two choices to experience better TV reception: Move to the top of a tall hill, or, create a more effective antenna. Moving was out of the question, leaving immersion in antenna theory

magazine articles and textbooks which a pre-teenager could locate. Along this trail was my introduction to amateur or 'ham' radio, a hobby which for most indoctrinated at my young age would lead to a lifetime in pursuit of electrons. I have faithfully maintained an interest - not always healthy - in this subject, and for anyone housing their own pre or early teenager I can recommend an introduction to ham radio as a positive counter balance to other less long-term desirable hormone agents such as rap music and experimentation with drugs.

My interest in television reception became a passion. When the first reception is 'deep fringe' (created with my father building an 80 foot mast which he filled at the top with double stack single channel yagis for our one possible TV station), there is only one way to go; *forward*. So with the ample assistance of amateur radio reference books, the occasional trade magazine report and money earned from an extensive paper delivery route coupled with carrying golf bags for adults at the local course; our garage and then rural side yard turned into piles of aluminum (or aluminium!) tubing cut, hand fitted to a boom, and then discarded. After a year of building very large yagi antennas, stacking them four and then eight high or wide, I would discover the 'Holy Grail' of high-gain, monster antennas; *The Rhombic*. The antenna design had been developed in the late 20s and perfected in the 30s by RCA Communications for their world-girdling short-wave links that permitted telephone connections between California and New Zealand, or, Guam and New York. Fortunately, our 1+ acre of property was just large enough for a shoehorned-in rhombic for TV reception. Suspended by trees, wooden poles and plenty of manila rope, I was in a state of shock when the antenna was connected to our living room TV which had been modified with a knife switch so that my various antenna experiments could be directly (*'throw the switch'*) compared, in more or less real time, with the 80 foot mast antenna.

On very rare occasions, subject to the infrequent appearance of just the right combination of weather patterns, the image on our TV screen would actually be noise free for a few minutes, seldom a few hours, and never a full day. This was *'deep fringe'* in the early 50s.

Connect *The Rhombic* and *'throw the switch'*. Not even a hint of noise. A totally clean picture. Instant shock - *doubt*, followed by several hours of throwing the switch back and forth between the normal and then the rhombic antenna. If it had been possible to wear out a knife switch, it would have happened that afternoon during the summer of 1952.

Word spread quickly throughout our community. A 'miracle antenna' that hung in the trees was providing reception nobody could quite believe. A steady line of visitors followed, including the man who would subsequently create our town's pioneering cable TV system, Tony Ceracche. People from our immediate neighbourhood arrived with tape-measures and cameras - to sketch out the rhombic so they in turn could build one. It was pretty heady stuff for a 14 year old, nicknamed, 'The TV kid', by the locals.

Once bit, forever infected. Imbued with a gift for writing, magazine articles would follow, and in 1960 my first by-subscription advertising-supported 'trade journal.' At the tender age of 22, I became a technical journal publisher. DXing Horizons was followed in rapid succession by TV Horizons, Communication Horizons, CB (Citizens Band) Horizons and for my amateur radio companions, VHF Horizons. Books would follow (*'CATV System Design'* and *'CATV System Maintenance'*, *'CB Radio Handbook'*) interspersed with five year 'recess periods' which allowed my technical skills to create a series of patent-protected products for the cable TV reception world.

Through the pages of DXing and subsequently TV Horizons, the television world became familiar with two then-new concepts; cable television, and, 'translator' television. These publications routinely reported the technical and operational detail of pioneers who built monster antennas (making my rhombic seem like the playground of a child - which it was); 150-200-250 and even 300 miles from the nearest TV stations; watchable TV, often with mind boggling clarity, considering the distances involved!

By the mid 1970s, my temporary exodus from technical journal publishing in favour of creating hardware for cable systems and then building cable systems finished. A new publication was created, which, of all ever generated by my fingertips, holds the most special place; CATJ (Community Antenna Television Journal). Exciting events were underway; satellites capable of rebroadcasting television channels over 42 percent of the earth were being launched and I knew that was where I wanted to be. The first ground satellite receiving stations used 99 foot diameter parabolic dishes. CATJ would devote itself to making smaller dishes practical, affordable, and available. It required just four years to reduce the dish size from 99 feet to 6 feet; CATJ achieved that by scouring the world for the best minds in this new area of engineering and bringing their experiments and analysis to paper and print.

By 1979 the proof was in hand, and through a series of thrice-annual seminars staged from Florida to California (and points between), lasting into the mid-80s, the home satellite (C-band at first, later Ku-band) revolution was underway. And this spawned the most infamous publication I have ever been associated with, directly or otherwise; CSD (Coop's Satellite Digest). CSD began in October 1979, and the last issue was published in April 1987. Every issue is a highly valued 'collector's prize', and even I do not possess a complete set. What CSD did, quite deliberately and with no recrimination, was turn the TV reception world upside down. It introduced first-ever TV to folks in PNG, the Azores, South Africa, It detailed how Europeans could watch American television - direct by satellite, how New Zealand could watch American television, how folks in Oklahoma could watch Moscow live and direct, ... CSD, one issue - one page - one report at a time erased all of the boundaries and borders that until satellite had prevented television from reaching its full potential. Not a few folks out there in TV land despised CSD; fortunately, for every such malcontent, there were hundreds who saw it as the salvation of an archaic industry which prior to satellites had become the private preserve of, '*the good old boys*', who controlled the pre-satellite television world.

CSD created many millionaires - folks who built better antennas or more of them, better receivers, better LNAs/LNBs - better anything that made satellite TV function. I was not one of those, but it never bothered me, having become self-convinced that popularising something so new and revolutionary was far more important than self-greed. Twenty-five years hence, I have not changed my outlook on life. And besides, in 67 years of life I cannot think of even one time when I was more than a sloppy and careless businessman.

It has been a life of innovation, 'pushing the envelope' of accepted technology, and in the process coming to know - however briefly - folks who made their own mark on television technology (such as RCA's Zworykin, Atlanta's Ted Turner, and especially my friend and confidant of 30 years, [Sir] Arthur C. Clarke). Alas, most of the real innovators and heroes of the 'television era' (1948 until the present) are people you have seldom, if ever, heard about.

Which leads me to a final endeavour. Along this pathway, starting in 1950 and ending sometime after this date in 2005, two works of considerable self-pride remain to be published. The first, now 98% complete and lacking only an introduction and closing paragraphs, remains untitled as I pen these words. It is a historical perspective of how *little* people doing *little* things made *major* contributions to the art and science of television transmission and reception. Folks like Benjamin Tongue who perfected the first 'all-channel' television signal amplifier circuit, Keith Anderson who designed and built hundreds of 1 to 10 watt TV 'translator' devices at a time when American authorities were sending SWAT teams onto hilltops nation-wide to close down these unlicensed ('illegal') TV stations. Or John Winegard, operating from a small town in Iowa where he created TV antenna reception designs that 50 years hence are still modern.

But it is more than a dry historical perspective because it is - in truth - an 'autobiography' of me, by me. I prefer to call it a 'Technobiography' for, as life has rewarded me, I was actually there - *in person* - when folks like Tongue, Anderson, and Winegard, first revealed their creations. As the satellite industry unfolded, with no modesty I point out that US government regulations made ownership of home dish systems illegal - and, I was a major force in getting that law changed. Or, when Ted Turner ran into conceptual hurdles with the introduction of CNNI (International), I was there with a solution; which worked. Moreover, as a trained journalist, I filed away for later review the events and the trials and tribulations of an entire industry developing through the 50s-60s and on into the satellite era that closed the century.

This work will first be released on DVD-CD (as this set of SatFACTS has been) and shortly thereafter in printed form. It is a very large book - more than 800 pages when supplemented with one-off 'virgin' photos captured as the television reception industry unfolded. To quote a famous line of US newscaster Edward R. Murrow - "*You are there*", in fact.

'**Changing Channels: How pirates grabbed control of your television set**', was originally titled 'Television: The technology that changed our lives'. As personal as the technobiography is, 'Changing Channels' is much broader in scope and delves into the entire world-wide industry as it developed from the 30s onward. By good fortune, while many of the very earliest pioneers (such as RCA's Zworykin) were still living, my wife Gay and I had the presence of mind to systematically round them up; individually, or with the co-operation of the RCA David Sarnoff Library, in groups; for in-depth day-plus long discussion sessions which we audio taped and supported in notebooks filled with our own thoughts as the revelations flowed. There are some fascinating remembrances here: from Stalin who coerced President Roosevelt into supplying, through RCA, a complete television station (Moscow), plus a manufacturing plant to build TV receivers (1937-1938), to: Winston Churchill's use of German operated TV, transmitted on the Paris Eiffel Tower, as a means of monitoring internal German activities during the period 1942-1944; and: an effort by Cuba's Fidel Castro to "tap into" American television using Cuban mountain top receiving sites in the 60s and 70s.

'Changing Channels' is 75% complete as I type these words, scheduled for release in DVD-CD format initially (perhaps as early as March 2006) and in printed form almost simultaneously.

In the interim, welcome to the "*SatFACTS Saga*" - ten years of how the Pacific and Asian satellite industry was created, grew, and endured through mid-year 2004!

(Credits: For unfaltering SatFACTS support, Australian reader 'IF'.)